

A REVISION OF THE EURYMELINI (HOMOPTERA, BYTHOSCOPIDAE).

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[Read June 8, 1933.]

INTRODUCTION.

Insects of the Eurymelini division of the Eurymelinae have attracted the notice of collectors in Australia since the earliest days of settlement, and for upwards of a century specimens have been sent to Museums in Europe for description by entomologists. Many of the descriptions were made from single specimens, with the result that synonyms are abundant, since the specific descriptions were largely based on colour characteristics, and with the majority of the known species the colouration is extremely variable.

Up to the present it has been the custom to place large individuals in the genus *Eurymela* Le P. & S. and the small ones in the genus *Eurymeloides* auctt., but for a long time it has been apparent that the classification of the group was in need of revision. The late Professor C. F. Baker had intended undertaking this work, and went so far as to prepare a tentative classification; this was never published. The revision presented here is based on a study of material examined in the collections of the British Museum; the Australian Museum, Sydney; the National Museum, Melbourne; the South Australian Museum; the Macleay Collection of the University of Sydney; the Froggatt Collection at Canberra, and the author's private collection. In addition, material has been lent by the Queensland Museum, and five paratypes of species described by Kirkaldy have been lent to the author by Mr. O. H. Swezey of the Hawaiian Sugar Planters' Association. The author is indebted to the authorities of these institutions for permitting him to examine the collections in their care. He also particularly wishes to acknowledge his indebtedness to Mr. W. E. China, of the British Museum, without whose ever ready help and advice he would have been unable to carry out this work. Mr. China permitted full use to be made of a tentative key to the Eurymelinae genera, (MSS.), prepared by him in 1926, and also furnished descriptions and drawings of type material in the British Museum collection.

SYSTEMATICS.

The Eurymelinae are considered to be a division of the Bythoscopidae on account of the facial position of the ocelli. Further research may show that they merit elevation to family rank. In a paper published in 1926, China⁽¹⁾ considered the Pogonoscopini as a sub-family; here they are classed as a tribe. In addition to insects allied to *Pogonoscopus* spp. and *Eurymela* spp., there exist in Australia a number of genera similar to those mentioned above in having the ocelli facially placed. They also resemble them in habits and general appearance, but they lack the typical Eurymeloid colour pattern and differ in the structure of the genitalia. These insects are provisionally placed in the Ipoini. The three tribes of the sub-family Eurymelinae may be separated by means of the following key:—

⁽¹⁾ China, W. E., Trans. Ent. Soc., London, 1926 (2), 289.

1. Tegmina, a shiny blue, black, or brown colour, with or without white or coloured fasciae; sub-genital plates broad and flap-like, with styles. 2
Tegmina, hyaline or more or less transparent; if coloured brown or black, then without definite fasciae, and lacking the typical Eurymeloid colour-pattern; sub-genital plates long and narrow, without styles. IPOINI
2. Head, including the eyes, narrower than the pronotum at the base; hind-tibiae rounded in section with the outer sides flattened, and bearing a regular armature of spines arising direct from the tibiae themselves. POGONOSCPINI
Head, including the eyes, wider than the pronotum at the base; hind tibiae quadrilateral in section, bearing distinct spurs with modified spines at their apices. . . EURYMELINI

This paper is concerned only with the Eurymelini; the Ipoiini will be dealt with at a future date. The Pogonoscopini⁽²⁾ have already been revised by China (1926). Among the Eurymelini examined were many single specimens representative of new species. These will not be described until further material is available.

KEY TO THE GENERA OF THE EURYMELINI.

1. Tegmen with four or five large and distinct apical cells; appendix well developed; hind tibial armature variable. 5
Tegmen without distinct apical cells, usually reticulate apically, or with eight or nine apical cells partially developed; appendix small; hind tibiae with one to three distinct spurs⁽³⁾ 2
2. Head in profile evenly convexly rounded or globose. 3
Head in profile not evenly convexly rounded or globose, the frons being produced into a transverse spade-shaped process in the middle, which is concave dorsally.
EURYMELOPS Kirkaldy
Genotype *Eurymela rubrovittata* A. & S.
3. Head in profile evenly convexly rounded, not globose; tegmina, when closed, strongly tectiform 4
Head in profile strongly globosely convex; tegmina when closed not strongly tectiform, the clavus more or less horizontal and in the same plane as the pronotum and scutellum. PLATYEURYMELA, gen. nov.
Genotype *Eurymela semifascia* Walker
4. Tegmina, black or brown with or without whitish fasciae; femora of fore legs with four to six pairs of short blunt spurs on their interior margins; hind tibiae with one spur. EURYMELA Le P. & S.
Genotype *Eurymela fenestrata* Le P. & S.
Tegmina, black with one or two whitish fasciae, if two, the anterior one very large and the posterior one small, usually reticulate apically, occasionally with large apical cells; femora of fore legs spurless; hind tibiae with two, occasionally three spurs.
PAUROEURYMELA, gen. nov.
Genotype *Eurymela amplexineta* Walker
5. Front and middle femora spineless; hind tibiae with three to five distinct spurs decreasing in size from the apex of the tibiae to the base. 6
Front and middle femora with strong outwardly-curved spines (front with one, middle with three spines); hind tibiae with two distinct spurs on the apical half, and several feeble ones towards the base. EURYMELITA, gen. nov.
Genotype *Eurymela terminalis* Walker
6. Hind tibiae with three to five distinct spurs; sub-genital plates with distinct styles.
EURYMELOIDES Kirkaldy
Genotype *Eurymela bicincta* Erichs.
Hind tibiae with two distinct spurs and numerous spines; sub-genital plates with only a very slight development of a style EURYMELESSA, gen. nov.
Genotype *Eurymeloides moruyana* Distant

⁽²⁾ All the representatives of this tribe, so far described, have been collected in Western Australia. In the South Australian Museum are specimens from Kangaroo Island, South Australia, and Victoria.

⁽³⁾ These spurs are not homologous with those that occur on the hind tibiae of the Cercopidae, but are actually the enlarged bases of mobile spines.

EURYMELA Le Pelletier and Serville.

Encyc. Meth. 10; 604, 1825.

Signoret, Ann. Soc. Ent. Fr. (2) viii.; 503, 1850.

Signoret divided this genus into two sections, but did not name them. Since the genus as it now stands comprises only a few of the many species originally included in it, a redescription is given below.

Wedge-shaped insects, 6-14 mm. in length (from the apex of the head to the tip of the folded tegmina). The general colouration is brown or purplish-black, and the head in profile is evenly convexly rounded (fig. C, fig. 5). The venation of the tegmina is reticulate apically, and the hind tibiae have one distinct spur.

Twelve species have been described belonging to this genus as now defined; only three of these are recognised here, the others being considered as local races that differ in colour pattern and occasionally in size, but not in structure. One new species is described.

EURYMELA FENESTRATA Le P. & S. (Genotype).

**Eurymela fenestrata* Le P. & S., Encyc. Meth. 10; 604, 1825. **Eurymela ruficollis* Burm., Genera Insectorum, 1838-45. **Eurymela discoidalis* Sign., Ann. Soc. Ent. Fr. (2) viii.; 505, 1850. *Eurymela distincta* Sign., Ann. Soc. Ent. Fr. (2) viii.; 506, 1850. *Eurymela vicina* Sign., Ann. Soc. Ent. Fr. (2) viii.; 506, 1850. **Eurymela suffusa* Walk., List Homoptera iii.; 640, 1851. *Eurymela speculum* Walk., List Homoptera iii.; 641, 1851. **Eurymela plebeia* Kirk., H.S.P.A. Exp. Sta. Bull. 1 (9); 355, 1906. *Eurymela lubra* Kirk., H.S.P.A. Exp. Sta. Bull. 1 (9); 355, 1906. **Eurymela subnigricans* Dist., Ann. Soc. Ent. Belg. 52; 105, 1908.

A great number of varieties of this species exist, many of which have been given specific names. These varieties can be divided into two groups. One group comprises individuals in which the general colouration is bronze or brown; in the other group the predominating colour is black. Since no morphological differences can be discovered between the many varieties of both groups, and intergrades exist between them, they are best considered as comprising one species. There is, however, no doubt that *Eurymela fenestrata* as defined here contains a number of incipient species, any one of which, if isolated for a sufficiently long period, would probably acquire distinct structural characters. Separate descriptions for the two groups are given below. The synonyms marked * belong to the brown group, the remainder to the black group. Figure A is a diagrammatic representation of the tegmina of some of the varieties of the brown group. Although these forms are well established and not chance varieties, it is felt that it would only confuse their identification to give them specific rank, especially as there are certainly many more colour combinations than those figured here. The figures are drawn from individuals examined by the author, and were selected as showing the range of variation, and not as representing named varieties.

BROWN GROUP.

Description.—Length, 10 mm. (from the apex of the head to the tip of the folded tegmina). Head, entirely orange-rufous or very dark brown, or marked with a pattern containing both colours; maxillary plates always cream coloured. Pronotum and scutellum entirely apricot orange, orange rufous or dark purplish-brown, or marked with a pattern of orange and brown. Tegmen, with the anterior costal margin always rufous or yellowish, the rest of the tegmen dark brown or very dark purplish-brown, except for whitish fasciae which may be present; these vary in number from one to three, and though constant in position and size as far as the varieties are concerned, present numerous combinations within the group

and may be entirely absent (fig. A). Legs, coxae, and femora concolorous with the thorax; tibiae and tarsi black, excepting the proximal tarsal segment of the hind legs, which is white. Abdomen, ventral surface pale or dark ochreous; genital segments variable in colour, the lobes of the last ventral segment in the female long and narrow (fig. C, fig. 3). Male genitalia, sub-genital plates large and boat-shaped, having a long narrow style lying along the interior margin of the plate; the base of the style is attached to the thickened edge of the ventral margin of the plate; aedeagus as in figure (fig. B, fig. 1; fig. C, fig. 8).

Distribution.⁽¹⁾—Queensland, New South Wales, Victoria and South Australia.

BLACK GROUP.

Description.—Length, 10-14 mm. Head, black, but for the maxillary plates, which are white or cream. Pronotum and scutellum, black. Tegmen, bluish or purplish-black, usually with one, two or three whitish fasciae; these, though constant in size and position as far as the varieties are concerned, present numerous combinations within the group and may be entirely absent; costal margin always black, never rufous or yellow. Legs, coxae, and proximal halves of femora scarlet (some museum specimens have yellow abdomens, it is not known whether this was their original colour); male and female genital segments black.

Distribution.—Queensland, New South Wales, Victoria, and South Australia.

NOTE.—There is a transitional form between the two groups which has all the colour characteristics of the black group, excepting that the anterior portion of the costal margin of the tegmen is rufous.

EURYMELA ERYTHROCNEMIS Burmeister.

Eurymela erythrocnemis Burm., Genera Insectorum, 1838-45.

Description.—Length, 8-9 mm. Head, black, maxillary plates broadly white. Pronotum, black, posterior margin white. Scutellum, black with apex rufous. Tegmen, black with the costal and claval margins broadly fulvous. Two white fasciae; anterior fascia strongly widened towards clavus across which it extends half way; posterior fascia arcuate, more or less parallel-sided, not much wider at costal margin than at apex of clavus. Legs, front and middle legs with coxae and proximal halves of the femora reddish, distal halves of the femora and tarsi black; hind coxae, femora and tibiae red, apices of tibiae and last two tarsal segments black, first tarsal segment white. Abdomen, ventral surface black, with a pallid spot in the middle of the last ventrite, and a small pale spot on the middle of each of the sub-genital plates (♂). Male genitalia, aedeagus as in fig. B, fig. 2.

Distribution.—New South Wales.

EURYMELA RUBROLIMBATA Kirkaldy.

Eurymela rubrolimbata Kirk., H.S.P.A. Exp. Sta. Bull. 1 (9); 354, 1906.

Description.—Length, 9 mm. Head, black, but for a narrow white border to the maxillary plates. Pronotum, either entirely black, or with the posterior half dull olive; the band of this colour being widest in the middle of the pronotum. Scutellum, black. Tegmen, bluish or bronzy black with the costal and claval margins fulvous; there are two whitish fasciae, the anterior irregular in shape, often narrow and transverse, the posterior transverse and always wider at the costal than at the hind margin of the tegmen. Legs, front legs, coxae, and proximal halves of femora reddish, distal halves of the femora, tibiae and tarsi black; middle legs entirely reddish but for the tarsi, and the distal halves of the

(¹) Distribution records refer to insects examined and do not necessarily indicate the limits of any species.

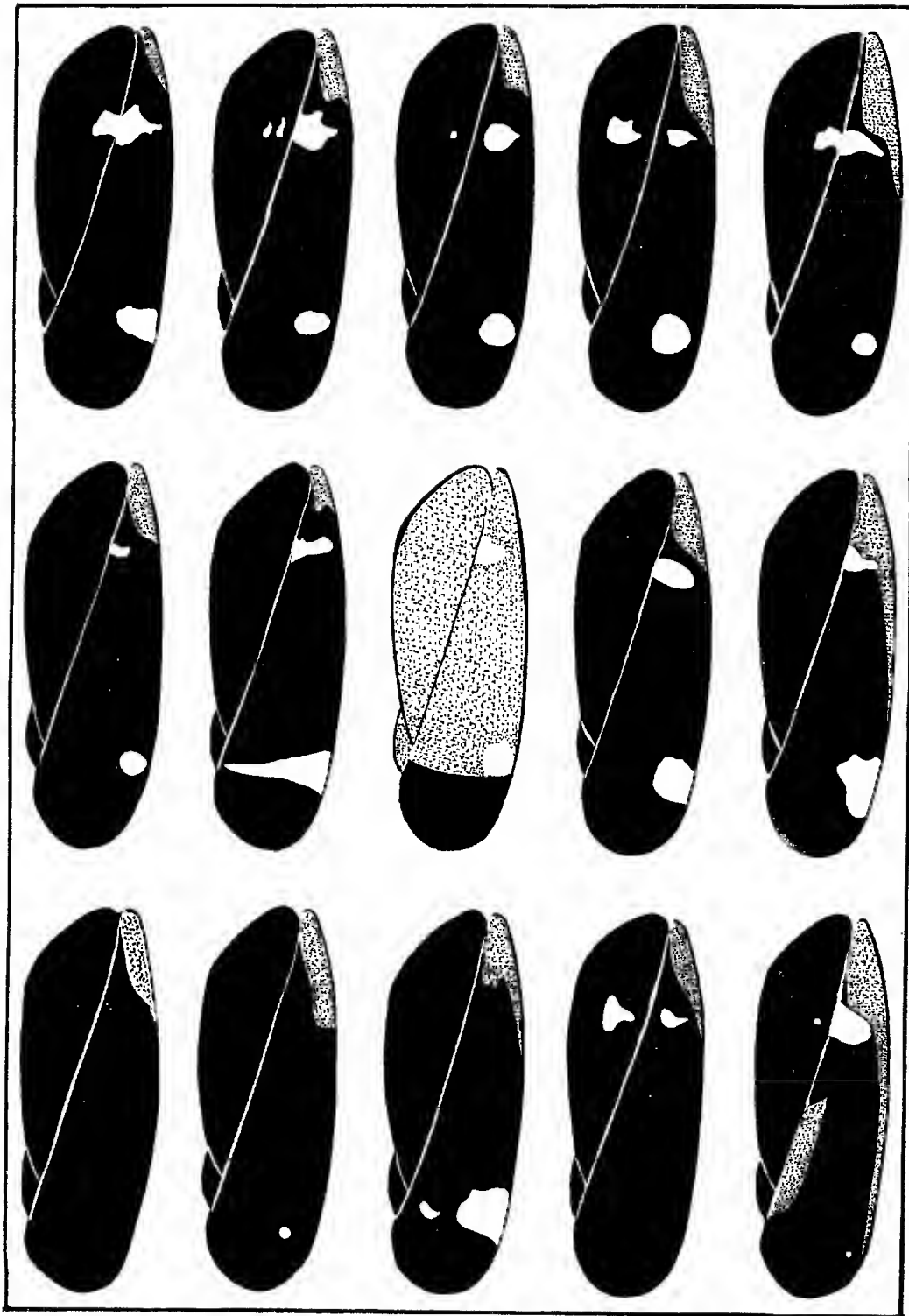


Fig. A.

Diagrammatic figures of the tegmina of insects belonging to the brown division of *Eurymela fenestrata*, to show the range of variation.

femora, which are black; hind legs entirely reddish, but for the distal quarters of the tibiae, which are black, and the first tarsal segment which is white. Abdomen, ventral surface black. Male Genitalia, aedeagus, as in fig. B, fig. 3.

Distribution.—New South Wales.

***Eurymela bakeri*, n. sp.**

Description.—Length, 6-7 mm. Head, black, maxillary plates white. Pronotum, black, frequently the posterior margin is white. Scutellum, black. Tegmen, black, with the costal and claval margins fulvous, and having two white or grey fasciae; the anterior fascia is irregular in shape, frequently extending into the clavus, the posterior lunate, reaching transversely right across the tegmen, much wider at the costa than at the clavus. Legs, front and middle legs with the coxae and proximal halves of the femora reddish, distal halves of the femora, tibiae and tarsi black; hind legs entirely reddish-brown, but for the apex of the tibia which is black, and the first tarsal segment which is white. Abdomen, ventral surface black. Male genitalia, similar to those of *E. erythrocnemis*, the ventral outgrowth from the base of the aedeagus, differently shaped (fig. B, fig. 4).

Distribution.—New South Wales.

Type ♂ from Canberra, F. C. T., (12/30), in the collection of the Division of Economic Entomology, Council for Scientific and Industrial Research at Canberra. Described from a long series of males and females.

***Platyeurymela*, gen. nov.**

Insects comprised in this genus may at once be recognised by being almost oval in outline when viewed from above (fig. C, fig. 1), and not wedge-shaped like those of related genera.

The head is globosely convex. The tegmina, which have their venation reticulate apically, are not strongly tectiform, but have the clavus more or less on a plane with the pronotum. The hind tibiae have one spur, and the front femora five or six pairs of very small spurs on the inner edge.

PLATYEURYMELA SEMIFASCIA Walker (Genotype).

Eurymela semifascia Walk., List Homoptera iii.; 643, 1851.

Eurymela tasmani Dist., Ann. Soc. Ent. Belg. 52; 106, 1908.

Description.—Length, 8 mm. Head, black, maxillary plates entirely black. Pronotum, black, hind margin narrowly white. Scutellum, black. Tegmen, black, costal and claval margins narrowly reddish; two narrow white fasciae, the anterior one on a level with the middle of the clavus and extending from very near the costal margin to the claval commissure; the posterior one on a level with the apex of the clavus and extending thence to the costal margin. Legs, fore and middle coxae, extreme base of anterior femora and proximal halves of middle femora, reddish-brown; anterior femora except base, distal halves of middle femora, tibiae and tarsi, black; hind legs with coxae and proximal halves of femora reddish, distal halves of femora, bases of tibiae and ultimate tarsal segment, black; tibiae except bases reddish, first two tarsal segments brownish-yellow. Abdomen, ventral surface black; posterior margin of penultimate segment, a spot on the middle of the two previous segments, and the ovipositor sheath, fulvous yellow. Male genitalia, aedeagus with the ventral lobe developed, the gonopore opening at the side (fig. B, fig. 5).

Distribution.—New South Wales, Victoria, and South Australia.

Var. *tasmani* Distant.

Similar to the typical form, but the anterior white fascia on the tegmen broadened, and the inner half of the corium between the fasciae entirely white. The maxillary plates are entirely black as in *semifascia*. The male genitalia show slight differences, such as a narrower and more apically rounded ventral lobe of the aedeagus.

Distribution.—Tasmania.

PLATYEURYMELA ATRA Walker (fig. C, fig. 1).

Eurymela atra Walk., List Homoptera iii.; 645, 1851.

Description.—Length, 8 mm. Head, black, with a narrow white margin to the maxillary plates. Pronotum, black, with the hind margin narrowly white. Scutellum, black. Tegmen, dark brown, shading to black at the apex and the base of the clavus. Legs, fore and middle coxae and proximal halves of femora reddish-brown; distal halves of the femora, tibiae and tarsi, black; hind legs with coxae and proximal halves of the femora red, distal halves of the femora and the ultimate tarsal segment black; tibiae and the first two tarsal segments reddish-brown. Abdomen, ventral surface black, each segment having a brown posterior margin; sub-genital plates fulvous. Male genitalia, similar to those of *P. semifascia*, but with the apex of the aedeagus much broader, and the ventral process with a distinct bump on the side (fig. B, fig. 6).

Distribution.—Tasmania and South Australia.

Pauroeurymela, gen. nov.

This genus contains small species from four to six millimetres in length. The head in profile is evenly convexly rounded. The tegmina, while usually having the venation reticulate apically, occasionally have large distinct apical cells. The fore femora are spurless, and the hind tibiae bear from two to three spurs.

PAUROEURYMELA AMPLICINCTA Walker (Genotype).

Eurymela ampicincta Walk., Ins. Saund. Homopt. 84, 1858.

Description.—Length, 4-6 mm. Head, black, maxillary plates white. Pronotum, either black with the posterior margin narrowly white or olive, or entirely dull olive. Scutellum, black. Tegmen, black with a narrow fulvous margin; there are two transverse grey or pale yellowish-brown fasciae, the anterior very much larger than the posterior; the fasciae converge towards each other, being much closer together at the hind margin than at the costal margin of the tegmen. Legs, front and middle legs with the coxae and proximal halves of the femora red, distal halves of the femora, tibiae and tarsi, black; hind legs entirely red, but for the distal tarsal segment, which is black. Abdomen, ventral surface black. Male genitalia, the sub-genital plates are more or less rectangular; the opening of the gonopore is at the extremity of the aedeagus, not at the side; there is a spine at the posterior edge, and the anterior ventral process arising from the base of the aedeagus, is present (fig. B, fig. 11).

Distribution.—New South Wales.

Pauroeurymela parva, n. sp. (fig. C, fig. 2).

Description.—Length, 7-8 mm. Head, black, eyes dull brown; the vertex seen from above is angular. Pronotum, black, the posterior margin very narrowly reddish. Scutellum, black. Tegmen, black with a narrow fulvous edge to the costal and claval margins; there are two pale yellowish-brown fasciae, the anterior transverse and wide, narrower at the costal than at the hind margin of the tegmen

(When the tegmina are closed these two fasciae form a band right across the dorsal surface of the insect.) Posterior fascia, a very small triangular pale area lying against the costal margin of the tegmen. Legs, reddish, but for the fore tibiae, fore tarsi, tarsi of the middle pair of legs, and the distal tarsal segment of the hind legs, which are black. Abdomen, ventral surface black. Male genitalia, aedeagus with no anterior ventral process developed, but similar to that of the genotype in having a spine present on the posterior margin, and the opening of the gonopore at the extremity of the aedeagus (fig. B, fig. 12).

Distribution.—New South Wales.

Type ♂ from Katoomba, New South Wales (October 3, 1926); paratypes, two females from the same locality; type and one of the paratypes in the collection of the Australian Museum, Sydney.

EURYMELOPS Kirkaldy.

H.S.P.A. Exp. Sta. Bull. 1 (9); 350, 1906.

Kirkaldy defined *Eurymelops* as a sub-genus, it is here given generic rank. This genus comprises insects eleven to fourteen millimetres in length, which are brightly coloured, red being the predominant colour. The frons is produced into a transverse spade-shaped process; this process is concave dorsally, and hence the eyes from above appear very prominent (fig. C, fig. 6). The venation of the tegmen is reticulate apically, and the hind tibiae have two, occasionally three, spurs.

EURYMELOPS RUBROVITTATA Amyot & Serville (Genotype).

Eurymela rubrovittata A. & S., Hist. Nat. des Ins. Hemip., 555, 1843. *Eurymela rubrofasciata* Stal, Ofv. Vet.-Ak. Förh. 22; 156, 1865. *Eurymelops rubrovitta* Kirk., H.S.P.A. Exp. Sta. Bull. 1 (9); 354, 1906.

Description.—Length, 14 mm. Head, black, excepting the maxillary plates and a narrow band between the eyes, which are red. Pronotum, black, posterior margin red. Scutellum, black. Tegmen, small area along the anterior edge of

DESCRIPTION OF FIGURE B.

Figure	1	..	..	Aedeagus	of	<i>Eurymela fenestrata</i> .
"	2	..	..	"	"	<i>Eurymela erythrocnemis</i> .
"	3	..	..	"	"	<i>Eurymela rubrolimbata</i> .
"	4	..	..	"	"	<i>Eurymela bakeri</i> .
"	5	..	..	"	"	<i>Platyeurymela semifascia</i> .
"	6	..	..	"	"	<i>Platyeurymela atra</i> .
"	7	..	..	"	"	<i>Eurymelops bicolor</i> .
"	8	..	..	"	"	<i>Eurymelops rubrovittata</i> .
"	9	..	..	"	"	<i>Eurymelops latifascia</i> .
"	10	..	..	"	"	<i>Eurymelops generosa</i> .
"	11	..	..	"	"	<i>Pauroeurymela amplicincta</i> .
"	12	..	..	"	"	<i>Pauroeurymela parva</i> .
"	13	..	..	"	"	<i>Eurymeloides pulchra</i> .
"	14	..	..	"	"	<i>Eurymeloides bicincta</i> .
"	15	..	..	"	"	<i>Eurymeloides marmorata</i> .
"	16	..	..	"	"	<i>Eurymeloides punctata</i> .
"	17	..	..	"	"	<i>Eurymeloides lineata</i> .
"	18	..	..	"	"	<i>Eurymeloides walkeri</i> .
"	19	..	..	"	"	<i>Eurymeloides minutum</i> .
"	20	..	..	"	"	<i>Eurymeloides perpallida</i> .
"	21	..	..	"	"	<i>Eurymeloides adspersa</i> .
"	22	..	..	"	"	<i>Eurymelessa morayana</i> .
"	23	..	..	"	"	<i>Eurymelessa froggatti</i> .
"	24	..	..	"	"	<i>Eurymelita terminalis</i> .
"	25	..	..	"	"	Sub-genital plates, styles (s) and parameres (p.), of <i>E. terminalis</i> .

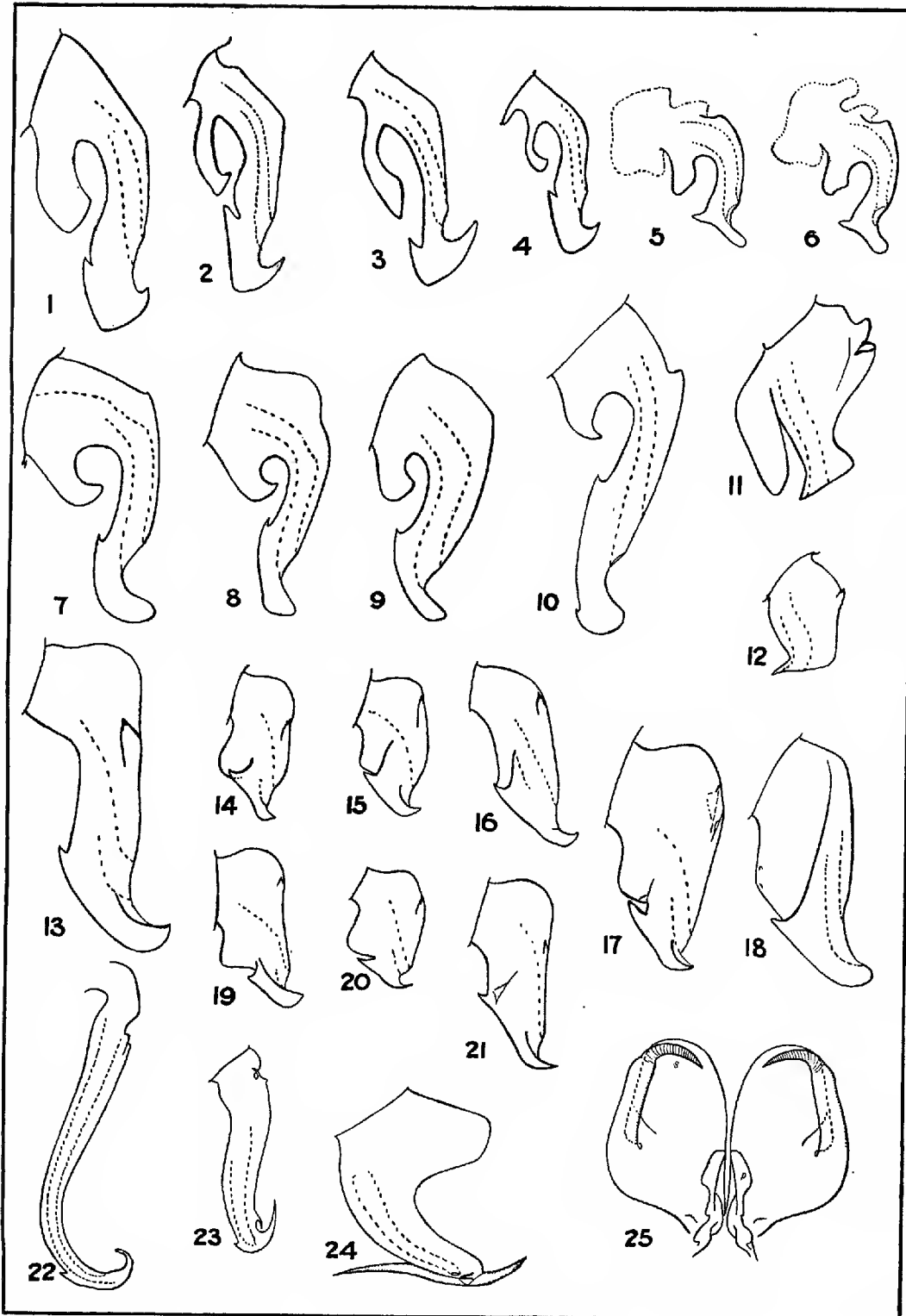


Fig. B.
[For description see opposite page]

the costal margin, and two transverse fasciae, red; the anterior fascia is sinuate; the rest of the tegmen is black, including the costal margin between the two fasciae. Legs, coxae and proximal halves of the femora red; distal halves of the femora, tibiae and tarsi, black, excepting the first tarsal segment of the hind legs, which is white. Abdomen, red, genital segments black; the flap on the last ventral segment of the female, short and broad (fig. C, fig. 4). Male genitalia, sub-genital plates and parameres similar to those of *Eurymela* spp., aedeagus as in figure (fig. B, fig. 8).

Distribution.—New South Wales and Victoria.

EURYMELOPS BICOLOR Burmeister.

Eurymela bicolor Burm., *Genera Insectorum*, 1838-45. *Eurymela basalis* Walk., *List Homoptera* iii.; 640, 1851.

Description.—Length, 14 mm. Head, metallic blue or greenish-black, with the maxillary plates and the dorsal margin of the frons red, or the whole head entirely red. Pronotum, either entirely bluish or greenish-black, or black with the posterior margin red. Scutellum, bluish or greenish-black; in some specimens there is a red spot in the middle. Tegmen, entirely a metallic greenish or bluish-black with the anterior costal area red, or all the anterior half of the tegmen, but for a black spot on the clavus, red, and the posterior half metallic blue. These are the two commonest combinations of red and blue found in this species, but there are many others. Legs, usually entirely black, coxae and anterior halves of femora of fore legs occasionally red. Abdomen, ventral surface red. Male genitalia, aedeagus as in figure (fig. B, fig. 7).

Distribution.—Queensland, New South Wales, Victoria, and South Australia.

EURYMELOPS LATIFASCIA Walker.

Eurymela latifascia Walk., *List Homoptera* iii.; 639, 1851. *Eurymela pascoci* Dist., *Ann. Soc. Ent. Belg.* 52; 106, 1908.

Description.—Length, 11 mm. Head, ochreous, frequently with a black area in the middle of the frons, and another between the eyes. Pronotum, entirely black, black with a reddish posterior margin, or pale or dark ochreous, with an oval-shaped black area in each anterior corner. Scutellum, black. Tegmen, black, a basal area of varying extent ochreous, and with two red or reddish transverse fasciae which are joined along the costal margin of the tegmen by a narrow reddish or ochreous band, which widens anteriorly; the anterior fascia is the same width at both ends, while the posterior fascia is wider at the costal than at the hind margin of the tegmen. (The basal ochreous area is always connected to the anterior fascia along the fore border of the tegmen; the connecting red area may be narrow or wide.) Legs, coxae and proximal halves of femora ochreous; distal halves of femora, tibiae and tarsi, black. Abdomen, ochreous, frequently suffused with black. Male genitalia, aedeagus as in figure (fig. B, fig. 9).

Distribution.—Western Australia and South Australia.

EURYMELOPS GENEROSA Stål.

Eurymela generosa Stål, *Ofv. Vet.-Ak. Förh.* 22; 156, 1865. *Eurymela bunda* Dist., *Ann. Soc. Ent. Belg.* 52; 106, 1908.

Description.—Length, 14 mm. Head, entirely ochreous or reddish-testaceous, with bluish-black irregular markings on the frons and vertex. Pronotum and scutellum, bluish-black or testaceous, or marked with a combination of both colours. Tegmen, reddish-testaceous, with two transverse bluish-black fasciae that extend from the hind margin of the tegmen to close to the costal margin; these fasciae may be broken up into small irregular black areas, not forming a band; apical area of the tegmen, a hyaline brownish-ochreous. Legs, coxae and

proximal halves of femora red; distal halves of femora, tibiae and tarsi, black. Abdomen, ventral surface, reddish-testaceous; genital and anal segments black; sub-genital plates in the male with an oblique yellow stripe. Male genitalia, aedeagus as in figure (fig. B, fig. 10).

Distribution.—Western Australia.

EURYMELOIDES Kirkaldy.

H.S.P.A. Exp. Sta. Bull. 1(9); 354, 1906.

Eurymelias Kirk., H.S.P.A. Exp. Sta. Bull. 3; 29, 1907.

Eurymeloides Ashmead (Ent. Amer. 5; 126, 1889), is invalid, since it was described without reference to a species. By his action in fixing *E. bicincta* Erichs. as genotype (1906), Kirkaldy validated the genus, which should thus be attributed to Kirkaldy and not to Ashmead. The establishment by Kirkaldy of a new genus *Eurymelias* with type *E. hyacinthus* was therefore unnecessary, and *Eurymelias* automatically becomes a synonym *Eurymeloides*, since *bicincta* and *hyacinthus* are generically identical.

This genus contains a larger number of species than the other genera, and comprises insects ranging in size from five to eleven millimetres. The head in profile is slightly convexly rounded, in some species almost flat, and the vertex seen from above is angular. The tegmen has distinct apical cells and a well-developed appendix. The hind tibiae have three to five distinct spurs decreasing in size from the apex of the tibia to the base. The male genitalia have large, broad sub-genital plates, with distinct curved styles, that lie along the ventral external margin of the plates, but are not covered by them. The aedeagus invariably has one or two spines on the side of the posterior edge, and no anterior ventral process.

EURYMELOIDES BICINCTA Erichson (Genotype).

Eurymela bicincta Erichs., Beitrag zur fauna v. V. D. L., Archiv. Naturgesch. 286, 1842. *Eurymeloides bicinctellus* Kirk., H.S.P.A. Exp. Sta. Bull. 1 (9); 352, 1906.

Description.—Length, 7 mm. Head, fuscous mottled with stramineous, the vertex mostly black, or head entirely black. Pronotum, brown or black, with a narrow white posterior margin. Scutellum, brown or black. Tegmen, shiny black with two narrow white fasciae, the anterior stretching from the middle of the costa to just anterior to the apex of the scutellum (when the tegmina are folded); the posterior transverse and widest at the costal margin; in addition to the fasciae there may be some small white spots on the tegmina. Legs, coxae, femora, and first tarsal joint of hind legs, white, the rest black; hind tibiae with three spurs. Abdomen, ♂ ventral surface black, but for the posterior margin of each segment, which is white; ♀ ventral surface white, genital segments black. (There is a variety with the abdomen, coxae, and femora, scarlet.) Male genitalia, aedeagus as in figure (fig. B, fig. 14).

Distribution.—Queensland, New South Wales, Victoria, and South Australia.

EURYMELOIDES PULCHRA Signoret.

Eurymela pulchra Sign., Ann. Soc. Ent. Fr. (2) viii.; 508, 1850. *Eurymela discifera* Walk., List Homoptera iii.; 641, 1851. *Eurymeloides hyacinthus* Kirk., H.S.P.A. Exp. Sta. Bull. 1 (9); 351, 1906.

Description.—Length, 11 mm. Head, clypeus and vertex black, the latter with a median orange stripe; maxillary plates and lorae pale stramineous; frons pale rose with a median black stripe; eyes orange-red. Pronotum, black, with two more or less oval orange areas; entirely black, or entirely orange. Scutellum, orange, with a round black spot lying against the anterior margin. Tegmen, black,

with two yellow, pink or whitish transverse fasciae; the anterior fascia is made up of two distinct pale areas that meet at the claval suture; these two anterior fasciae may be quite separate or absent altogether; posterior fascia narrowly wedge-shaped. Legs, coxae and proximal halves of femora pale rose, distal halves of the femora, tibiae and tarsi, black, but for the first tarsal segment of the hind legs, which is white; hind tibiae with five spurs decreasing in size from the apex of the tibia to its base, and numerous spines. Abdomen, pale greenish-yellow; genital segments, black. Male genitalia, aedeagus as in figure (fig. B, fig. 13).

Distribution.—Queensland, New South Wales, Victoria, and South Australia.

EURYMELOIDES LINEATA Signoret.

Eurymela lineata Sign., Ann. Soc. Ent. Fr. (2) viii.; 509, 1850. *Eurymela livida* Walk., List Homoptera iii.; 642, 1851. *Eurymela decisa* Walk., List Homoptera iii.; 643, 1851.

Description.—Length, 8-9 mm. Head, black, external border of the lorae stramineous; frons red, with a central longitudinal black stripe; eyes ferrugineous. (The head may be entirely yellow but for a black posterior border.) Pronotum, black, with a narrow white posterior margin, or almost entirely red. Scutellum, either all black, or black with a red apex. Tegmen, black, purplish-black or purplish-brown, with a posterior transverse wedge-shaped fascia, widest against the anterior border of the tegmen; veins anterior to the fascia, pale yellow, posterior to the fascia, black. (The veins may be faintly pale or black, and the fascia divided into two areas, a broad triangular area against the costal margin of the tegmen, and a small irregular area against the hind margin; the latter may be absent; the tegmina in some specimens are entirely black with no pale markings.) Legs, coxae and the proximal halves of the femora red; distal halves of the femora, tibiae and tarsi, black; hind tibiae with three spurs and numerous spines. Abdomen, ventral surface red, genital segments, bluish-black. Male genitalia, aedeagus as in figure (fig. B, fig. 17).

Distribution.—New South Wales, Victoria and South Australia.

EURYMELOIDES PUNCTATA Signoret.

Eurymela punctata Sign., Ann. Soc. Ent. Fr. (2) viii.; 511, 1850. *Eurymela trifasciata* Sign., Ann. Soc. Ent. Fr. (2) viii.; 512, 1850. *Eurymela ocellata* Sign., Ann. Soc. Ent. Fr. (2) viii.; 511, 1850. *Eurymela varia* Walk., List Homoptera iii.; 644, 1851. *Eurymeloides cumulosus* Kirk., H.S.P.A. Exp. Sta. Bull. 1 (9); 351, 1906. *Eurymeloides ornatus* Kirk., H.S.P.A. Exp. Sta. Bull. 1 (9); 352.

DESCRIPTION OF FIGURE C.

- Figure 1 .. *Platyurymela atra*.
 " 2 .. *Pauroeurymela parva*.
 " 3 .. *Eurymela fenestrata*, ventral view of apex of abdomen of female, to show overlapping lobes of last segment.
 " 4 .. *Eurymelops rubrovittata*, ventral view of apex of abdomen of female.
 " 5 .. *Eurymela fenestrata*, head in profile.
 " 6 .. *Eurymelops rubrovittata*, head in profile.
 " 7 .. *Eurymeloides nigra*, hind tibia.
 " 8 .. *Eurymela fenestrata*, lateral view of male genitalia; sp., sub-genital plate; p., paramere; a., aedeagus; s., style.
 " 9 .. *Eurymelita terminalis*, lateral view of male genitalia; lettering as in fig. 8.
 " 10 .. *Pogonoscopus myrmex*, lateral view of male genitalia; lettering as in fig. 8.
 " 11 .. *Eurymeloides rubrivenosus* of Kirkaldy, aedeagus.
 " 12 .. *Eurymeloides rubrivenosus* of Kirkaldy, sub-genital plate and paramere, (p.).
 " 13 .. *Eurymeloides froggatti*, sub-genital plate, style (s.) and paramere (p.).
 " 14 .. *Ipo pellucida*, sub-genital plate and paramere (p.).
 " 15 .. *Ipo pellucida*, aedeagus.
 " 16 .. *Lasioscopus acmaeops*, sub-genital plate, style, (s.) and paramere, (p.).

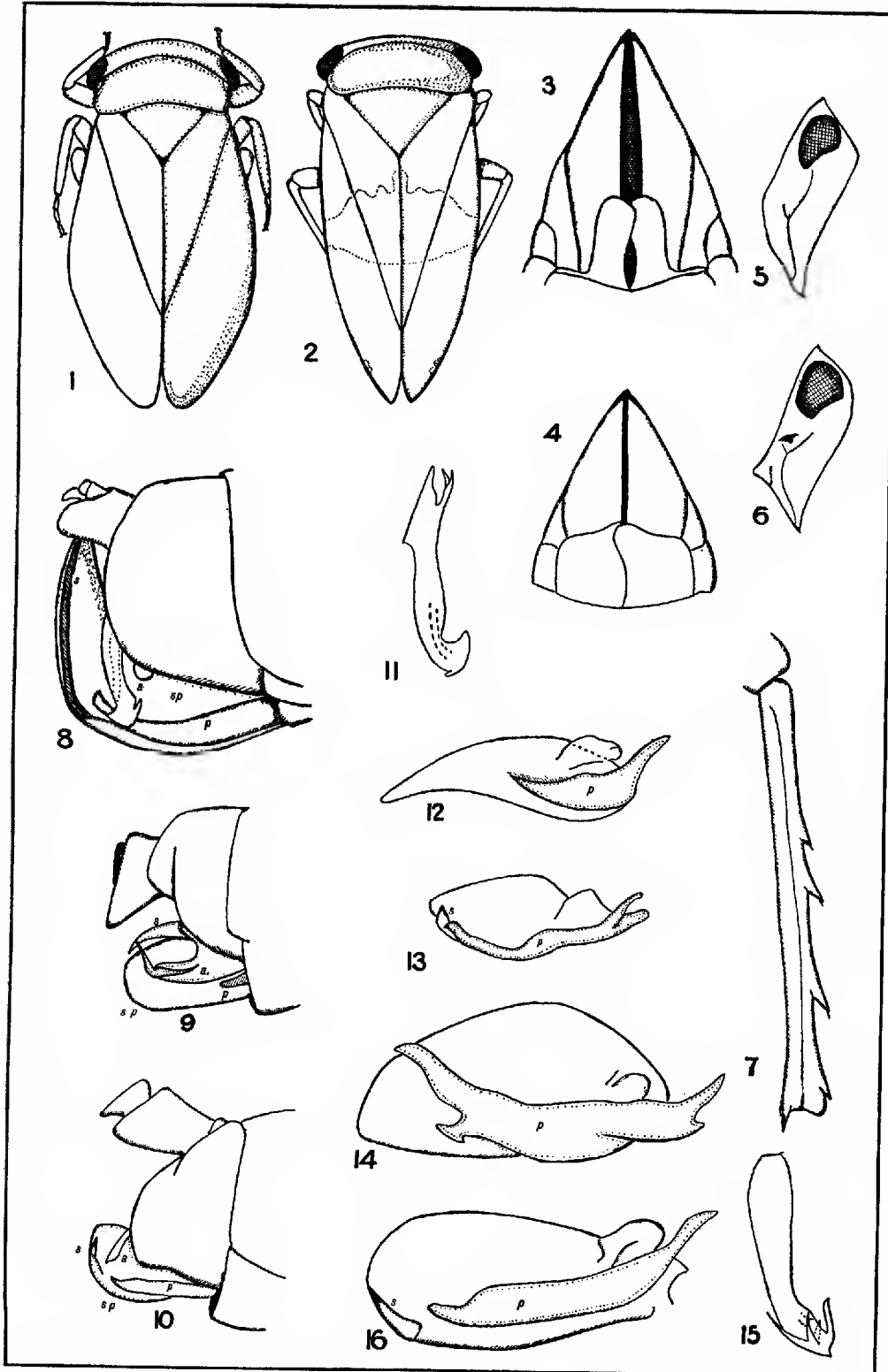


Fig. C.

[For description see opposite page]

1906. *Eurymeloides testaceus* Dist., Ann. Soc. Ent. Belg. 52; 101, 1908. *Eurymeloides atromaculatus* Dist., Ann. Soc. Ent. Belg. 52; 103, 1908.

This species, as the synonymy suggests, is a very variable one, and were it not for the large amount of material examined which showed transitional forms between the named varieties, would have been treated as several species. From the material available, forty-four specimens were selected, of which no two were identical; the genitalia of a number of these were examined, but no appreciable differences discovered.

Description.—Length, 6-8 mm. Head and pronotum, black mottled with yellow, pale brown mottled with yellow, or dark brown mottled with white; eyes reddish-brown. Scutellum, similar to pronotum, or with black or brown markings, or all black or all brown. Tegmen, usually black, but may be pale or dark brown; there may be two complete whitish fasciae, the anterior oblique and the posterior transverse; either of the fasciae may be incomplete, and have black or brown areas of varying shape in the middle of them; there may be a third transverse fascia between the other two; the fasciae may be an opaque white or merely semi-transparent areas of the tegmen; in nearly all the varieties examined the distal termination of the two anal veins have been white; the clavus may be dotted with white or light brown spots. Legs, coxae and femora light brown; tibiae and tarsi dark brown, excepting the first tarsal segment of the hind legs, which is white, and the spurs and spines on the hind tibiae which are white or yellow; hind tibiae with five spurs. Abdomen, ventral surface very pale brown or yellow, occasionally scarlet (this latter colour is found in aberrant forms of many species); genital segments dark brown or black. Male genitalia, aedeagus as in figure (fig. B, fig. 16).

Distribution.—Queensland, New South Wales, Victoria, and South Australia.

EURYMELOIDES PERPUSILLA Walker.

Eurymela perpusilla Walk., Ins. Saund. Homopt. 83, 1858.

Description.—Length, 6 mm. Head, maxillary plates and lorae yellow; the clypeus, frons and vertex, black; eyes, greyish-yellow. Pronotum and scutellum, black mottled with yellow. Tegmen, black with two bright yellow fasciae; the anterior extending from the base of the tegmen to beyond the middle of the costal margin (not transverse but longitudinal), the posterior transverse and widest against the costal margin. In addition to two distinct fasciae there may be a number of yellowish or whitish spots on the tegmen, and the posterior fascia may be broken up into a number of irregular pale areas. Legs, coxae and proximal halves of the femora yellow, distal halves of femora and tarsi black; tibiae black with yellow spines; hind tibiae with three spurs. Abdomen, ventral surface black. Male genitalia, aedeagus as in figure (fig. B, fig. 20).

Distribution.—Queensland and New South Wales.

EURYMELOIDES MARMORATA Burmeister.

Eurymela marmorata Burm., Genera Insectorum, 1838-45. *Bythoscopus nigro-ocneus* Walk., List Homoptera iii.; 867, 1851. *Eurymeloides sonatus* Dist., Ann. Soc. Ent. Belg. 52; 104, 1908.

Description.—Length, 7 mm. Head, black, mottled with light or dark brown. Pronotum, light brown mottled with black and dark brown. Scutellum, black, frequently with pale markings on the posterior half. Tegmen, black or brown, with two indistinct yellowish or reddish transverse fasciae; in addition there may be a number of small pale markings between and on both sides of the fasciae; these may be so numerous that much less than half the total area of the tegmen is black or brown. Legs, coxae and femora yellowish or reddish-brown; tibiae

dark brown with pale spots, hind tibiae with three spurs. Abdomen, ventral surface pale brown or reddish-brown; genital segments pale brown. Male genitalia, aedeagus as in figure (fig. B, fig. 15).

Distribution.—Queensland, New South Wales, Victoria, and South Australia.

EURYMELOIDES ADSPERSA Signoret.

Eurymela adspersa Sign., Ann. Soc. Ent. Fr. (2) viii.; 510, 1850.

Description.—Length, 9 mm. Head, pronotum, and scutellum, black, mottled with reddish-brown and yellow; eyes greyish-brown. Tegmen, black with yellowish and whitish irregular markings arranged in the form of three indistinct fasciae; the claval area dotted with white spots. Legs, coxae and femora pale brown; tibiae dark brown with yellowish spots; hind tibiae with three spurs. Abdomen, ventral surface yellow; genital segments very dark brown. Male genitalia, aedeagus as in figure (fig. B, fig. 21).

Distribution.—Tasmania and Victoria.

EURYMELOIDES WALKERI Distant.

Eurymeloides walkeri Dist., Ann. Soc. Ent. Belg. 52; 102, 1908.

Description.—Length, 7.5 mm. Head, bright egg-yellow, vertex largely black except for the lateral margins; a median longitudinal stripe and a small spot on each side near the edge of the pronotum, which are bright yellow; middle of frons and clypeus black. Pronotum, bright yellow, with a large black spot behind each eye and a pair of longitudinal black stripes in the middle. Scutellum, black with the apex and markings on the disc yellow. Tegmen, shiny black, with an irregular arcuate spot on the corium anteriorly, a wedge-shaped white spot on the costa posteriorly extending half-way to the apex of the clavus, and a pair of small white spots between the apex of the wedge-shaped spot and the apex of the clavus; claval suture with a long percurrent white stripe, a small arcuate white band extending from the claval suture inwards towards the apex of the scutellum at a level slightly anterior to the fascia on the corium; three small white spots on the clavus, one at the apex of each of the claval veins, the other slightly beyond the inner end of the claval fascia, on a level with the apex of the scutellum. Legs, coxae, basal halves of femora, and apices of hind femora, yellow, the rest of the legs black, except for the first segment of the hind tarsi, a row of spots down the outer edges of the tibiae and the bases of the hind tibial spines, which are yellowish-white. Abdomen, ventral surface bright yellow, sub-genital plates in male shining black; sides of the ninth segment in the female black; disc of penultimate segments in both sexes somewhat infusate. Male genitalia, aedeagus as in figure (fig. B, fig. 18).

Distribution.—Western Australia (Albany).

Eurymeloides minutum, n. sp.

Description.—Length, 5 mm. Head, black, mottled with yellow and brown; vertex as seen from above convex, not angular. Pronotum, black, with a few scattered small yellow spots. Scutellum, entirely black. Tegmen, hyaline, very dark shiny brown in colour with two white fasciae, the anterior divided into two more or less oval parts, both lying in the costal area; the posterior, an irregular transverse fascia, interrupted near the middle; it is wider at the anterior than at the posterior border of the tegmen; the claval area has a number of small yellow spots on it, and there are a few larger round yellow spots along the costal margin. Legs, coxae and femora pale yellowish-brown; tibiae and tarsi dark brown with white spots at the bases of the spines; proximal tarsal segments of hind legs, white; hind tibiae with three spurs. Abdomen, very dark brown; genital segments

of female pale brown, of male dark brown. Male genitalia, aedeagus as in figure (fig. B, fig. 19).

Type, ♀ from Matcham, near Gosford, New South Wales (March 27, 1924), paratype ♂ from the same locality; both specimens in the collection of the Australian Museum, Sydney.

Eurymeloides nigra, n. sp.

Description.—Length, 10 mm. Head, black, but for the external margins of the lorae, the external borders of the maxillary plates and the sides of the frons, which are white; eyes, scarlet. Pronotum and scutellum, black. Tegmen, black, with a single transverse posterior wedge-shaped white fascia, widest at the costal margin. (Paratype, with a small circular anterior fascia.) Legs, black, hind tibiae with three spurs (fig. C, fig. 7). Abdomen, ventral surface, the anterior three visible segments black anteriorly, pale brown posteriorly, the remaining segments black.

Distribution.—New Guinea.

Type, ♀ from Bisiatabu, Port Moresby, New Guinea. Paratype ♀ from the same locality. Both specimens in the collection of the South Australian Museum.

Eurymelessa, gen. nov.

This genus can be separated from *Eurymeloides*, which it somewhat resembles, principally by the characters of the male genitalia. The styles on the sub-genital plates are rudimentary (fig. C, fig. 13), and the aedeagus is longer and narrower than those of *Eurymeloides* spp. (fig. B, figs. 22 and 23). The head is slightly sub-angularly produced, and is inclined at a steep angle to the rest of the body, the maxillary plates are very broad. The venation of the tegmina is not reticulate apically, and the appendix is well developed. The hind tibiae have two spurs and numerous spines.

EURYPELESSA MORUYANA Distant (Genotype).

Eurymeloides moruyana Dist., Ann. Nat. Hist. 20; 188, 1917.

Description.—Length, 6.5-7 mm. Head, black with the posterior margin of the vertex moderately pale brown. Pronotum, entirely pale brown. Scutellum, black. Tegmen, dark brown shading to black apically; an oblique stripe across the middle of the corium from the claval suture to the costa; the costal edge, most anterior, and apices of the two anal veins, yellow or white; two apical white spots on the corium, one at the apex of the clavus, the other on the costal margin, at the same level; clavus sometimes entirely pale yellow. Legs, brown, last segment of the hind tarsi fuscous. Abdomen, ventral surface yellow. Male genitalia, sub-genital plates with rudimentary styles (fig. C, fig. 13); aedeagus long and narrow (fig. B, fig. 22).

Distribution.—Queensland and New South Wales.

Eurymelessa froggatti, n. sp.

Description.—Length, 6 mm. Head, black, or black with a pale brown crown; eyes, reddish-brown. Pronotum, either entirely pale brown, or entirely black. Scutellum, black. Tegmen, with one incomplete whitish apical fascia, or a number of small white apical spots; clavus and claval border of the corium, often largely dirty yellow. Legs, brown, last segment of hind tarsi black. Abdomen, ventral surface black, with the posterior margins of the segments narrowly pale brown. Male genitalia, aedeagus as in figure (fig. B, fig. 23).

Distribution.—Queensland, New South Wales, and Victoria.

Type, ♂ in the collection of the South Australian Museum. Described from a long series of males and females.

Eurymelita, gen. nov.

This genus contains a species very similar in general appearance to insects belonging to the genus *Eurymeloides*. The head, in profile, is almost flat. The tegmina have large, distinct apical cells and a well-developed appendix, and the front and middle femora have strong outwardly curved spines, the front with one and the middle with three spines. The hind tibiae have two distinct spurs on the apical half and several feeble ones towards the base. The male genitalia have very short parameres, and the sub-genital plates have a style arising from the dorsal edge, and not from the ventral edge as in all previous genera. (Fig. B, fig. 25, and fig. C, fig. 9).

The species described below is variable in colouration. Two main varieties exist, one with black tegmina and narrow pinkish-coloured fasciae, the other with brown tegmina and whitish fasciae. These varieties are connected by a series of transitional forms, but no morphological differences have been discovered between any of the many specimens examined.

EURYMELITA TERMINALIS Walker.

Eurymela terminalis Walk., List Homoptera iii.; 642, 1851.

Description.—Length, 9 mm. Head, usually all black, but for the maxillary plates, which are whitish; the latter may be pale chocolate colour and the frons have red markings on it, or the head may be entirely brown. Pronotum and scutellum, black with the hind margins chocolate or rufous; sometimes the chocolate colouration extends right over these sclerites; they may also be pale brown. Tegmen, black with two narrow white, cream or dull pink fasciae; the anterior one where it meets the hind margin of the clavus extends anteriorly towards the head, so that when the tegmina are closed, the anterior fasciae form an X; posterior fascia wider at the costal than at the hind margin of the tegmen; in some specimens the area of the tegmen anterior to the proximal fascia, is chocolate in colour, in others the whole tegmen, other than the fasciae, is pale brown. Legs, coxae and proximal halves of femora reddish-brown, distal halves of femora, tibiae and tarsi, black. Abdomen, ventral surface red, genital segments black. Male genitalia, sub-genital plates, parameres and aedeagus as in fig. B, figs. 24 and 25, and fig. C, fig. 9.

Distribution.—Queensland, New South Wales, Victoria, and South Australia.

MISCELLANEOUS NOTES.

The insects described under the following names have not been included in this revision, since they belong to the Ippini.

Eurymela porriginosa Sign., Ann. Soc. Ent. Fr. (2) viii.; 512, 1850. *Eurymela lignosa* Walk., Homopt. Ins. Suppl. 166, 1858. *Eurymeloides lentiginosus* Kirk., H.S.P.A. Exp. Sta. Bull. 1 (9); 353, 1906. *Eurymeloides rubri-venosus* Kirk., H.S.P.A. Exp. Sta. Bull. 1 (9); 353, 1906. *Eurymeloides insignis* Dist., Ann. Soc. Ent. Belg. 52; 103; 1908.

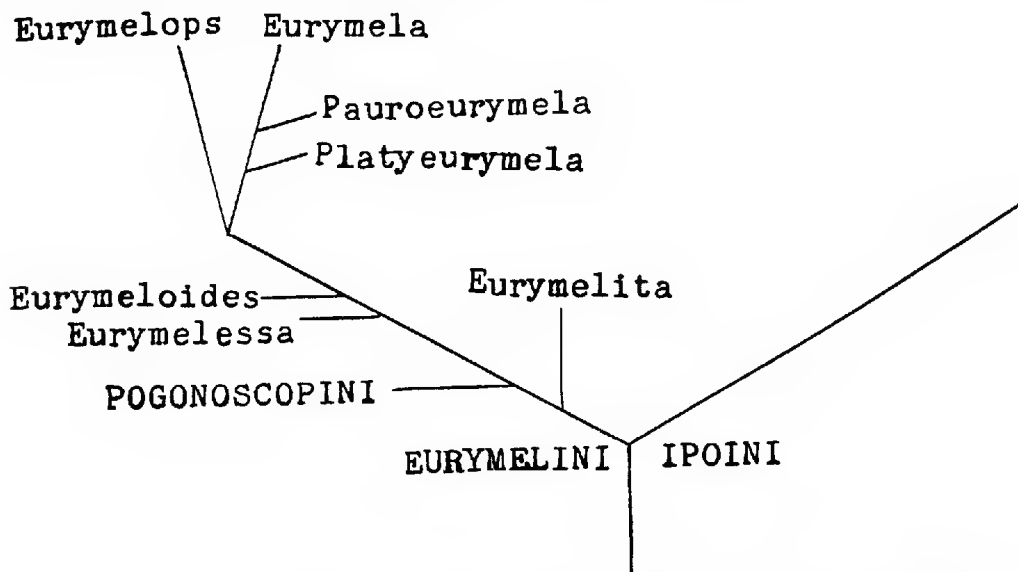
The following were originally placed in the genus *Eurymeloides* by Jacobi: *Pogonoscopus levis* Jacobi and *Lasioscopus acmaeops* Jacobi. (Jacobi, A., 1909, Faun. S.-W. Aust., Michaelsen u. Hartmeyer ii.; 340.) They were transferred by China (1926) to their present genera. Walker described two insects under the name of *Eurymela suffusa*, one in 1851 (= *fenestrata* Le. P. & S.), the other in 1858 (Ins. Saund. Homopt. 83); the last-named description is vague and the type is lost, consequently this species cannot be identified with any certainty. In addition to the above, two other insects have at some time been referred to the genus *Eurymela*; one is *Olonia maura* F. (Ent. Syst. iv.; 40, 1794), which apparently both Signoret and Distant understood to be a *Eurymela* sp.; the other is *Dardus abbreviatus* Guer., of which a synonym was described under the name

of *Eurybrachys laeta* White (Eyre Exped. 1; 433, 1845), and subsequently this name was quoted by Kirkaldy (H.S.P.A. Exp. Sta. Bull. 1 (9); 356, 1906), as being that of a *Eurymela* sp.

CONCLUSIONS.

This paper has dealt only with the Eurymelini, which is a natural tribe and not an artificial grouping of unrelated genera. The Ipoini, on the other hand, will probably have to be split up into three or four divisions, since as at present defined, it contains a diverse assemblage of forms. Whilst as far as it is known, the Eurymelini are confined to trees of the genus *Eucalyptus*, the Ipoini are found on a wide range of trees and shrubs, including Casuarinas and Melaleucas, as well as *Eucalypts*.

Below is given a chart showing the possible relationships of the three tribes of the Eurymelinae, and the genera of the Eurymelini. The genera *Eurymelita* and *Eurymeloides*, while resembling each other superficially, are not actually closely related, hence in the chart, the former is shown as branching away from the main stem before the Pogonoscopini. It is considered that the original stem from which all three tribes arose, comprised insects with narrow sub-genital plates without any development of a style. While on one hand *Eurymelita terminalis* has developed styles arising from the dorsal edge of the sub-genital plates, the rest of the Eurymelini and the Pogonoscopini bear styles that arise from the ventral edge of the sub-genital plates.



For the purpose of comparison with the genitalia of the Eurymelini, figures are given of the male genitalia of certain of the Pogonoscopini and the Ipoini. Fig. C, figs. 11 and 12, show the aedeagus, sub-genital plates and parameres of *Eurymeloides rubrivenosus* of Kirkaldy (= *E. lentiginosus* of Kirkaldy). Not only is there no style, but the plate itself is narrow, and very dissimilar to those of the Eurymelini.

Figures 14 and 15 (fig. C) represent the aedeagus, sub-genital plates and parameres of *Ipo pellucida* F., and figures 10 and 16 (fig. C.) are of the male genitalia of *Pogonoscopus myrmex* China and *Lasioscopus acmaeops* Jacobi. With the two last-named species, which both belong to the Pogonoscopini, while the sub-genital plates are broad like those of *Eurymela* spp., the style is shorter and the aedeagus is a much simpler structure. The biology and general morphology of the Eurymelinae have been dealt with in an earlier paper by the present author. (Proc. Linn. Soc., N.S.W., 56 (3); 210-226, 1931.)